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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,192	06/20/2002	Kattesh V. Katti	0994.00133	6247

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EXAMINER	
KRASS, FREDERICK F	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/019,192	KATTI ET AL.	
	Examiner	Art Unit	
	Frederick F. Krass	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Request for Clarification

The examiner's file (the electronic "E-Dan" file) contains an entry for 10/30/2003 in which several pages of printed text relating to the treatment of cancers with gold complexes is set forth, and nothing more. It is unclear if this was intended to be an amendment to the specification, a submission of information, or something else. Clarification/correction is requested.

Claim Informalities

The following correction is recommended to place the claims in better form:

Claim 4, second line, immediately after "includes" there should be inserted --- a ---

Written Description Rejection (New Rejection)

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following precedent is believed relevant to the instant case.

Regents of the University of California v. Eli Lilly & Co., 119 F.3d 1559, 1568 (Fed.Cir.1997), *cert. denied*, 523 U.S. 1089, 118 S.Ct. 1548 (1998), holds that an adequate written description requires a precise definition, such as by structure, formula, chemical name, or physical properties, "not a mere wish

or plan for obtaining the claimed chemical invention." *Eli Lilly*, 119 F.3d at 1566. The Federal Circuit has adopted the standard set forth in the Patent and Trademark Office ("PTO") Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement ("Guidelines"), 66 Fed.Reg. 1099 (Jan. 5, 2001), which state that the written description requirement can be met by "showing that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics," including, *inter alia,* "functional characteristics *when coupled with a known or disclosed correlation between function and structure* ...." *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 296 F.3d, 316, 1324-25 (Fed. Cir. 2002) (quoting Guidelines, 66 Fed.Reg. at 1106 (emphasis added)). Moreover, although Eli Lilly and Enzo were decided within the factual context of DNA sequences, this does not preclude extending the reasoning of those cases to chemical structures in general. Univ. of Rochester v. G.D. Searle & Co., 249 F. Supp.2d 216, 225 (W.D.N.Y. 2003).

Instant claim 4 generally recites an additional "therapeutic agent". When functional claims are drawn this broadly, they are inclusive of any therapeutic agents, which potentially could be small molecules, peptides, peptide mimetics or RNA-DNA-based structures. See for example paragraph [0013] of US 2002/0006915, which represents a publication directed to one of ordinary skill in the biotechnology/pharmaceutical field.

The instant specification, quite simply, does not disclose any therapeutic agents. The last paragraph at page 12 vaguely mentions "chemotherapeutic agents", but no examples are provided; cisplatin is mentioned at page 13, line 23, but only in the context of an undesirable prior art embodiment over which the instant gold compounds are an alleged improvement. No direction for using any specific small molecules, let alone peptides, peptide mimetics, or RNA-DNA-based structures is provided; no identifying characteristics of any kind, e.g. chemical formulae or sequences, are provided. Nor are any dosages, administrative forms, administrative regimens, etc. provided. This informational vacuum contrasts starkly with the admitted highly unpredictable nature of the invention; see for example the discussion provided at page 2, lines 3-6 and 19-24 of the instant specification. Accordingly, the instant specification fails to provide an adequate written description of additional "therapeutic agents".

Scope of Enablement Rejection (Previous Rejection)

Claims 5-7 were rejected under 35 U.S.C. 112, first paragraph, as being broader in scope than their enabling disclosure.

This rejection is withdrawn with regard to claim 5.

It is maintained with regard to claims 6 and 7, but only insofar as these claims continue to use the absolute terms "preventing" (claim 6, first line) and "arresting" (claim 7, first line). This rejection could be readily overcome, and these claims rendered allowable, by replacing these terms with a less absolute synonym, e.g. "inhibiting" or "reducing".

Indefiniteness Rejection (New Rejection)

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Upon reviewing these claims, the examiner notes that they are confusing and incomplete since their preambles recite "steps" (plural), but the body of the claims recite only a "step" (single) in each case.

Anticipation Rejection (New Rejection)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Komiya et al ("Synthesis of water-soluble tri(hydroxymethyl)phosphine)gold(I) complexes containing a nucleoside ligand", *Inorganica Chimica Acta*, vol. 217, pp. 201-202 (1994)).

The prior art discloses complexes comprising a hydroxymethylphosphine ligand bound to a non-radioactive gold(I) atom. The solvent used for synthesis (ethanol) is a "pharmaceutically acceptable carrier" as specified by instant claim 3 (see page 201, the last paragraph in the lefthand column). These are then further complexed with nucleosides, which are additional "therapeutic agents" as required by instant claim 4. These complexes are water-soluble and potentially useful in cancer therapy (see the last paragraph of the article).

2) Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Chemical Abstracts 127:144328.

The prior art discloses complexes comprising a hydroxymethylphosphine ligand bound to a gold(I) atom. Since these are the same complexes disclosed by Applicant, the instant intended use limitation ("for use as a therapeutic pharmaceutical") carries no weight in determining patentability. The water in the water/alcohol solvent used for synthesis is a "pharmaceutically acceptable carrier" as specified by instant claim 3, and the alcohol a "therapeutic agent" as required by instant claim 4.

3) Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Okuhama et al (USP 6,183,545)

Patentees disclose complexes comprising a hydroxyalkylphosphine ligand bound to a gold(I) atom. See especially working example 2 at col. 7, which specifically discloses a gold tris(3-hydroxypropylphosphine) complex, as well as claim 1 of the patent. The instant preamble, "for use as a therapeutic pharmaceutical", is viewed as a mere recitation of intended use which carries no weight in determining patentability; the prior art gold complexes are capable of being used therapeutically, e.g. in the treatment of rheumatoid arthritis with gold ions, whether the prior art recognizes the fact or not. The complexes are present in solution in water, which is a "pharmaceutically acceptable carrier" as specified by instant claim 3. Furthermore, the EDTA included in working example 2 is a "therapeutic agent" (a chelating agent) as required by instant claim 4, as are the antioxidants disclosed at col. 6, lines 40-52.

It is the examiner's position that USP 6,183,545 is available as prior art under 35 U.S.C. 102(e) insofar as the provisional applications upon which the instant application relies for priority (Provisional Applications 60/156,151 and 60/140,576) do not provide support for claiming priority to "complexes" of a "hydroxyalkyl phosphine donor group bound to a non-radioactive gold compound" generally, but rather support claiming priority only to the specific species $[Au(THP)_4]Cl$, $[Au(HMPB)_4]Cl$, and $[Au(HMPE)_4]Cl$. See specifically Provisional Application 60/140,576 at page 3, lines 9-13, and at the last paragraph of page 4 (disclosing the first species, and referring to Figures 5 and 6 to illustrate the last two species), for example. These provisional applications do not disclose the preferred gold tris(3-hydroxypropylphosphine) complex of the prior art, nor do they provide any direction, suggestion or teaching for making or using it.

Obviousness Rejection (Previous Rejection)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 were rejected under 35 U.S.C. 103(a) as being unpatentable over Katti et al (USP 5,843,993) in view of Fricker ("Medicinal chemistry and pharmacology of gold compounds," *Transition Met. Chem.*, vol. 21, pp. 377-383 (1996)).

This rejection is maintained, and is extended to claims 6 and 7 in light of newly discovered case law. Accordingly, claims 1-7 are now rejected under 35 U.S.C. 103(a) as being unpatentable over Katti et al in view of Fricker.

Applicant argues that Katti et al is not prior art (through 35 U.S.C. 102(e)) because it issued less than one year from the original filing date of, and has the same inventive entity as, the present application.

Insofar as the examiner can determine from the facts of record, this is not the case. The Katti et al patent appears to include an additional inventor (Douglas E. Berning) not named in the present application. Accordingly, the rejection of claims 1-4 is maintained for the reasons already of record.

The rejection has been extended to cover claims 6 and 7, and claim 5 as amended, in light of recent new case law. The instant preamble of claims 5-7, "for treating/preventing/arresting prostate, colon or gastric cancer" is viewed as non-limiting since it does not recite essential steps "necessary to give life, meaning and vitality" to the claimed subject matter. Pitney Bowes, 51 USPQ2d at 1165-66; Kropa v. Robie, 88 USPQ 478, 480-81 (CCPA 1951). The body of the claim following the preamble is a self-contained description of the method (administration of phosphine-gold complexes) and does not depend on the preamble for completeness. Accordingly, the claims simply read on the administration of phosphine-gold complexes for any purpose.

For methods of therapy, this situation is usually resolved by specifying administration to a subject "in need" of such administration. See Jansen v. Rexall Sundown, Inc., 342 F.3d 1329 (C.A. Fed (Ind.) 2003). (Holding that the preamble phrase "treating or preventing macrocytic-megaloblastic anemia", combined with the body phrase "to a human in need thereof", limits the claim so as to require that patient must know he or she is in need of treatment or prevention of this specific type of anemia.)

Allowable Subject Matter

Claims 5-7 would be allowable if rewritten to incorporate the language suggested above, namely 1) less absolute terms such as "inhibiting" metastasis in claim 5 and "reducing" cell growth in claim 7 and 2) "in need thereof" language per the Jansen decision. (Adopting the latter language would overcome both the obviousness and the indefiniteness rejections).

Using claim 5 as an example, suggested language would be:

--- A method of treating prostate, colon, or gastric cancer comprising administering an effective amount of a ligand comprising at least one hydroxyalkyl phosphine group bound to a non-radioactive gold atom to form a stable gold-ligand complex, to a subject in need thereof. ---

The prior art of record does not fairly suggest, teach or disclose using non-radioactive gold-hydroxyphosphine complexes to treat prostate, colon or gastric cancer. As demonstrated by the Fricker article, the therapeutic activity of non-radioactive gold-phosphine complexes is highly unpredictable, and it is unexpected that the instant complexes would be specifically effective against these particular cancers.

(This is particularly so given the lack of specificity concerning the treatment of cancer found throughout the prior art of record).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frederick F. Krass whose telephone number is 571-272-0580. The examiner's schedule is as follows:

Monday: 10:30AM- 7PM;
Tuesday: 10:30AM - 7PM;
Wednesday: off;
Thursday: 10:30AM- 7PM; and
Friday: 10:30AM-7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached at 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frederick Krass
Primary Examiner
Art Unit 1614